

## REMARKS

Applicants appreciate the Final Office Action of May 7, 2004. Applicants respectfully submit that the pending claims are patentable over the cited combination for at least the reasons stated herein and respectfully request reconsideration of the rejections in the Final Office Action. Accordingly, Applicants submit that the pending claims are in condition for allowance, which is respectfully requested in due course.

### **The Claims are Patentable over the Cited Combination**

Claims 1-5, 7 and 10-12 stand rejected under 35 U.S.C. § 103(a) as being patentable over United States Patent No. 6,326,315 to Uchiyama *et al.* (hereinafter "Uchiyama") in view of United States Patent No. 5,698,463 to Suga (hereinafter "Suga"). Applicants respectfully submit that many of the recitations of the pending claims are neither disclosed nor suggested by the cited combination. For example, Claim 1 recites:

An integrated circuit ferroelectric memory device, comprising:  
an integrated circuit transistor having a source region and a drain region;  
a ferroelectric capacitor on the integrated circuit transistor having first and second sidewalls, the ferroelectric capacitor including **a first electrode consisting of a single material adjacent the transistor**, a second electrode remote from the transistor and a ferroelectric film therebetween;  
**a contact plug directly connected to the first electrode that electrically couples the ferroelectric capacitor to the source region of the integrated circuit transistor**;  
an insulating layer on the first and second sidewalls of the ferroelectric capacitor, the insulating layer having a surface that is substantially coplanar with an upper surface of the second electrode;  
a plate line directly on the ferroelectric capacitor; and  
**a stripe line adjacent the second electrode and remote from the first electrode.**

Applicants respectfully submit that the cited combination does not disclose or suggest at least the highlighted portion of Claim 1.

The Final Office Action admits that Ochiyama "does not disclose the first electrode (25c) consisting of a single material and a stripe line adjacent the second electrode and remote from the first electrode." *See* Final Office Action, page 3. However, the Final Office Action points

to Suga as providing the missing teachings. In particular, the Final Office Action points to a wiring layer 35 of Suga as teaching the stripe line as recited in Claim 1. *See* Final Office Action, page 3. Applicants respectfully disagree. Claim 1 recites "a stripe line adjacent the second electrode and remote from the first electrode. Nothing in Suga discloses or suggests that the wiring layer 35 of Suga is a stripe line as recited in Claim 1 and nothing in the Final Office Action provides a reason for such an assertion. Thus, it appears that the assertion in the Final Office Action that the wiring layer 35 of Suga teaches the stripe line recited in Claim 1 is an improper assertion having no support in Suga or the Final Office Action. Applicants respectfully submit that Claim 1 is patentable over the cited combination for at least these reasons.

Furthermore, Webster's Third New International Dictionary, the dictionary used by the Federal Circuit, defines "adjacent" as "not distant or far off; nearby but not touching." As illustrated in Figure 3 of Suga, the wiring layer 35 of Suga is not "adjacent" the second electrode 28c as recited in Claim 1. Accordingly, Claim 1 is patentable over the cited combination for at least these additional reasons. Thus, as Suga does not provide the missing teachings as suggested in the Final Office Action, nothing in any of the cited references discloses or suggests a stripe line adjacent the second electrode and remote from the first electrode as recited in Claim 1.

Furthermore, there is no motivation to combine Uchiyama and Suga as suggested in the Final Office Action. To establish a *prima facie* case of obviousness, the prior art reference or references when combined must teach or suggest *all* the recitations of the claims, and there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. M.P.E.P. § 2143. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. M.P.E.P. § 2143.01(citing *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990)). There is no motivation or suggestion to modify the cited reference as suggested in the Final Office Action. As recently affirmed by the Court of Appeals for the Federal Circuit in *In re Sang-su Lee*, a factual question of

motivation is material to patentability, **and cannot be resolved on subjective belief and unknown authority**. See *In re Sang-su Lee*, 277 F.3d 1338 (Fed. Cir. 2002). It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher." *W.L. Gore v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 U.S.P.Q. 303, 312-13 (Fed. Cir. 1983).

The Final Office Action states:

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to form the first electrode of Uchiyama et al. with of [sic] a single material, since it has been held that omission of an element and its function in a combination where the remaining elements perform the same functions as before involves only routine skill in the art. *In re Karlson*, 136 USPQ 184. Also it would have been obvious to one of ordinary skill in the art at the time the invention was made to form the stripe line adjacent the second electrode and remote from the first electrode, as taught by Suga, into the device of Uchiyama et al. to provide appropriate function of interconnecting in the integrated circuit ferroelectric memory device.

See Final Office Action, page 4. This motivation is a motivation based on "subjective belief and unknown authority," the type of motivation that was rejected by the Federal Circuit in *In re Sang-su Lee*. In other words, the Final Office Action does not point to any specific teaching in the art that would induce one of skill in the art to combine the cited references as suggested in the Final Office Action. Accordingly, the statement in the Final Office Action with respect to motivation does not adequately address the issue of motivation to modify as discussed in *In re Sang-su Lee*.

Applicants respectfully note that, *In re Karlson* is a Court of Customs and Patent Appeals case from 1963. More recent case law of the Court of Appeals for the Federal Circuit makes clear that this does not imply that sweeping, conclusory inferences drawn from multiple references meet the requirements for support of a rejection under § 103. In particular, to support combining references, evidence of a suggestion, teaching, or motivation to combine must be **clear and particular**, and this requirement for clear and particular evidence is not met by broad and conclusory statements about the teachings of references. See, e.g., *In re Dembiczak*, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). The Final Office Action does not point to any portion of the cited references as providing a motivation to combine the references. Each of the cited references include different arrangements of

electrodes, insulating layers, metal layers and the like, and a § 103 rejection may not be supported simply by throwing these disparate arrangements of regions together in an *ad hoc* fashion, as these proposed changes would fundamentally change the configurations shown in the references. A person of skill in the art would not be motivated to combine these references without using Applicants' disclosure as a road map. Thus, it appears that the Final Office Action gains its impetus or suggestion to modify the cited reference by hindsight reasoning informed by Applicants' disclosure, which, as noted above, is an inappropriate basis for combining references. Finally, even if combined the cited combination does not disclose or suggest the recitations of the pending claims for at least the reasons discussed above.

Accordingly, for at least the reasons discussed above, Applicants submit that independent Claim 1 is patentable over the cited references. Furthermore, the dependent claims are patentable at least per the patentability of the independent base claims from which they depend. Thus, the pending claims are in condition for allowance, which is respectfully requested in due course.

### **CONCLUSION**

Applicants respectfully submit that the pending claims are patentable over the cited combination for at least the reasons stated herein. Accordingly, Applicants submit that the pending claims are in condition for allowance, which is respectfully requested in due course. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (919) 854-1400.

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Respectfully submitted,



Elizabeth A. Stanek  
Registration No.: 48,568

**USPTO Customer No. 20792**  
Myers Bigel Sibley & Sajovec  
Post Office Box 37428  
Raleigh, North Carolina 27627  
Telephone: 919/854-1400  
Facsimile: 919/854-1401

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Erin A. Campion